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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/398,106	09/16/1999	KENICHI MARUTANI	FUJH-16.361	9635

7590 05/08/2002

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EXAMINER

ABELSON, RONALD B

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/398,106

Applicant(s)

MARUTANI, KENICHI

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

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*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 - 3, 5, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petch (US 6,243,372).

Regarding claim 1, Petch teaches a method and apparatus for synchronization in a wireless network (col. 1 lines 5 - 10). The system contains a first means for generating a first synchronized word / GPS timing pulse detecting window (fine adjust window, col. 8 lines 28 - 45), second means for generating a second synchronized word / GPS timing pulse detecting window (coarse adjust window, col. 8 lines 28 - 45), means for detecting the synchronized word / GPS timing pulse in the first or second detecting window (detection of the GPS timing pulse, col. 8 lines 28 - 45), control means for resetting the position of the second synchronized word / GPS timing pulse detecting window (counter is reset to an initialized state, col. 8 lines 28 - 45). Note changing the position of the counter is

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akin to moving the position of the window (fig. 7, col. 12 lines 18 - 59).

Although Petch does not explicitly teach a synchronization word, it would have been obvious to one skilled in the art that both the GPS timing pulse and the synchronization word accomplish the same function, which is to align the data. One detects a pulse and the other detects a word. Both synchronize the incoming signal with a reference signal.

Regarding claim 2, if the synchronized word is detected in the first window / fine window, the counter is adjusted to optimize the probability that the synchronized word will be detected in the next frame by both the first window / fine window and second window / coarse window (col. 8 lines 28 - 45).

Regarding claims 3 and 7, the control means resets the position of the second synchronized word detecting window, when a bit error rate of the synchronized word is more than a predetermined value. Petch uses CRC for the control means for determining the bit error rate (col. 11 lines 45 - 67). If the error rate for the fine adjust window exceeds an acceptable rate, the counter will be adjusted based upon the results of the coarse adjust window (col. 8 lines 28 - 45).

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Regarding claim 5, the control means is determined by phase measurements (fig. 3 box 55, col. 8 line 59 - col. 9 line 6).

Regarding claim 8, the control means resets the second synchronized word detecting window, when the signal received is less than a predetermined value (falls outside the fine adjust window but within the coarse adjust window, col. 8 lines 28 - 45).

3. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Petch as applied to claim 1 above, and further in view of Hosford (US 5,943,328).

Petch teaches CRC coding, but is silent on the use of the use of color coding.

Hosford teaches CRC coding in combination with color coding (col. 3 lines 40 - 49).

Therefore it would have been obvious to one of ordinary skill in the art, having both Petch and Hosford before him/her and with the teachings [a] as shown by Petch, a method and apparatus for synchronization in a wireless network using CRC coding, and [b] as shown by Hosford CRC coding in combination with color coding, to be motivated to modify the system of Petch to include a color code field in the transmitted data packet.

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This would improve the system by making it compliant with IS 136 Revision A (Hosford: col. 3 lines 40 - 49).

4. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Petch as applied to claim 1 above, and further in view of Mowbray (US 6,119,263).

Petch teaches CRC coding, but is silent on the use of BCH decoding.

Mowbray teaches CRC coding in combination with BCH decoding (abstract).

Therefore it would have been obvious to one of ordinary skill in the art, having both Petch and Mowbray before him/her and with the teachings [a] as shown by Petch, a method and apparatus for synchronization in a wireless network using CRC coding, and [b] as shown by Mowbray CRC coding in combination with BCH decoding, to be motivated to modify the system of Petch to include BCH decoding. This algorithm could be implemented in software. This would improve the system in respect to error detection (Mowbray: abstract).

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*Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

**RA**

Ronald Abelson  
Examiner  
Art Unit 2663

**RA**  
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May 6, 2002



MELVIN MARCELO  
PRIMARY EXAMINER